

S/601/62/000/016/007/029  
E193/E383

AUTHORS: Gertsriken, S.D. (Deceased), Dekhtyar, I.Ya. and  
Kumok, L.M.

TITLE: A study of the behavior of defects formed in chromium  
and niobium during filing

SOURCE: Akademiya nauk Ukrayins'koyi RSR. Instytut metalo-  
fyzyky. Sbornik nauchnykh rabot. no. 16. Kiyev,  
1962. Voprosy fiziki metallov i metallovedeniya.  
55 - 58

TEXT: Plastically deformed specimens of 99.99% pure Nb and  
99.9% pure Cr were obtained by filing with various types of files,  
the degree of deformation varying with the size of the filings  
which were separated into fractions by sieving. X-ray diffraction  
analysis was used to determine the effect of the size of the  
filings (i.e. the degree of deformation) on the block dimensions  
 $D$ , the magnitude of the stresses of the second type  $\Delta a/a$  and  
the dislocation density  $N$  in the metals studied. It was shown  
that with decreasing size of the particles  $D$  decreased and  $\Delta a/a$   
increased. At equal particle size the degree of deformation was higher in Nb,  
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S/601/62/000/016/007/029

E193/E583

A study of the ....

the block dimensions reaching a value of  $2.3 \times 10^{-6}$  cm in the 1 - 16  $\mu$  fraction in the case of Nb, and in the 1 - 35  $\mu$  fraction in the case of Cr. N increased with decreasing particle size, reaching saturation in filings of the 1 - 18  $\mu$  fraction.  
There are 1 figure and 2 tables.

SUBMITTED: January 26, 1962

Card 2/2

GERTSRIKEN, S.D. [deceased]; DEKHTYAR, I.Ya.; KUMOK, L.M.

X-ray study of the effect of small additions on the density of  
dislocations in deformed nickel. Sbor. nauch. rab. Inst.  
Metallofiz. AN URSR no.14:84-88 '62. (MIRA 15:6)  
(Nickel--Metallography) (Dislocations in metals)

S/058/62/000/009/029/069  
A006/A101

AUTHORS: Gertsriken, S. D., Dekhtyar, I. Ya., Kumok, L. M.

TITLE: Investigating the defects in the crystalline structure of chromium depending upon the deformation degree

PERIODICAL: Referativnyy zhurnal, Fizika, no. 9, 1962, 49, abstract 9E347  
("Sb. nauchn. rabot In-ta metallofiz. AN UkrSSR", 1961, no. 12,  
98 - 101)

TEXT: The density of dislocations in Cr after deformation to 35, 65 and 90% was determined by the X-ray method from blurring of lines due to the formation of domains and stresses of II order. It is shown that high dislocation density is obtained already at 35% deformation; further increase of the deformation degree raises the dislocation density only slightly. The authors suppose that one of the causes for Cr brittleness is its proneness to considerable accumulation of dislocations at relatively low deformations.

[Abstracter's note: Complete translation]

V. Verner

Card 1/1

GERTSRIKEN, S.D. [deceased]; DEKHTYAR, I.Ya.; KUMOK, L.M.

Studying the behavior of defects occurring in chromium and niobium  
during their deformation by filing. Sbor. nauch. rab. Inst.metallofiz.  
AN URSR no.16:45-58 '62. (MIRA 16:5)  
(Chromium--Metallography) (Niobium--Metallography)

ACCESSION NR: AT4010697

8/2601/63/000/017/0132/0137

AUTHOR: Gertsriken, S.D. (Deceased); Dekhtyar, I. Ya.; Kumok, L. M.; Pilipenko, V.V.; Khazanov, M.S.

TITLE: A study of the processes of diffusion and oxidation in the alloy ZhS-6k under conditions of cyclic heat treatment

SOURCE: AN UkrRSR. Instytut metalofizyky. Sbornik nauchnykh trudov, no. 17, 1963. Voprosy fiziki metallov i metallovedeniya, 132-137

TOPIC TAGS: thermal fatigue, heat treatment, flaw formation, chromium diffusion, nickel diffusion, volatilization, concentration gradient, oxidation, alloy ZhS-6k, cyclic heat treatment, radioactive isotope, diffusion

ABSTRACT: The number of cycles of heating and cooling before the appearance of cracks is usually taken as a measure of thermal fatigue. After studying the dynamics of the appearance of cracks using the roentgenographic (X-ray) method, V.I. Arkhirov noted that it is preceded by the development of block structure and the bending and buckling of blocks. One must assume that diffusion with high temperature conditions and cyclic stresses plays an important, if not decisive, role. Diffusion and cyclic stresses lead to the separation of a

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ACCESSION NR: AT4010697

second phase (carbides and intermetalloys) into a finely-dispersed state, and in addition, to the redistribution of elements between the body of the grain and the border zones; thus, these two processes do have a substantial influence on the durability of materials. As a rule, cyclic heat treatment has a negative effect on the mechanical characteristics of materials: with an increase in cycles, durability decreases. The diffusion of Cr and Ni in the alloy ZhS-6k was investigated by vaporization in a vacuum and by radioactive isotopes. If one of the components of an alloy has a comparatively high vapor tension, it will be easily vaporized when heated in a vacuum. As a result of this vaporization, a gradient of concentration will form in the alloy, and this component will evaporate from the surface to the extent that the substance arrives at the surface by means of diffusion. Measuring the quantity of evaporated substance, it is possible to determine the coefficient of diffusion of the component with high vapor tension. Calculations of this coefficient were made according to the formulas given by Grinberg and later made more precise and tabulated by Herzicken and his associates. For instance, knowing the percentage of Cr in an alloy it is possible to determine its absolute weight in a given sample. The change in the weight of the sample during heat treatments results,

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ACCESSION NR# AT4010697

it is assumed, from the evaporation of the volatile element Chromium. Therefore, it is possible to determine the coefficients of diffusion of Cr at various temperatures. In this particular case, the coefficients of diffusion were obtained for 5 temperature points between 1273 and 1423K. To determine the energy of activation of the process of diffusion of the alloy under investigation, the dependence of the coefficient of diffusion on temperature was utilized. High values of the energy of activation of diffusion of the alloy under investigation and its comparatively low coefficients of diffusion showed that this alloy to a considerable degree resists softening at high temperatures. Diffusional annealing of the samples was carried out in a quartz tube pumped out, filled with Argon and placed in an electric furnace. The oxidation of the alloy ZhS-6k at constant temperature was investigated. A special installation which permits weighing samples without taking them out of the furnace was developed to investigate the alloy for isothermal oxidation. Hence, continuous annealing and continuous observation of changes in weight due to oxidation was assured. Table I of the Enclosure shows the time-temperature-weight interrelation for three temperature points. The curves are in accordance with the law of parabolic oxidation. In contrast to the results of continuous heating, a decrease in the weight of samples dependent on the time of treatment took place in conditions of cyclic heat treatment. The weight

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ACCESSION NR: AT4010697

decreased because of the breaking away of oxides at the moment of a sharp change in temperature. Comparison of results obtained from our alloy with the data about oxidation obtained from Nichrome (Ni-Cr-Fe alloy) showed that at 1373K the speed of oxidation of ZnS-6k is approximately 1.5 times less than that of Nichrome under similar conditions. Orig. art. has: 3 formulas, 4 figures, and 2 tables.

ASSOCIATION: Instytut metalofizy\*ky\*, AN UKrRSR (Institute of Metallurgical Physics AN UKrRSR)

SUBMITTED: 00

DATE ACQ: 31Jan64

ENCL: 01

SUB CODE: MM

NO REF Sov: 004

OTHER: 000

Card

4/5

ACCESSION NR: AT4010697

ENCLOSURE: 01

T°, K	Interval in secs. where K=constant	K, $\frac{\text{mg}^2}{\text{sec.}}$
1273	0,36 0,36-1,8	$1,53 \cdot 10^{-4}$ $1 \cdot 10^{-4}$
1373	0-0,9 0,9-4,5	$3,3 \cdot 10^{-4}$ $1,97 \cdot 10^{-4}$
1473	0-0,054 0,054-0,18 0,18-3,6	$14,7 \cdot 10^{-4}$ $7,73 \cdot 10^{-4}$ $0,00 \cdot 10^{-4}$

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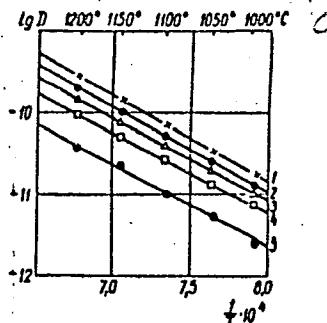
ACC NR:	AT6016345	IJP(m) (CN)	IJP(c)	JD/HW/GD
AUTHORS:	<u>Larikov, L. N.</u> ; <u>Yatsenko, T. K.</u> ; <u>Chernaya, L. F.</u> ; <u>Kumok, L. M.</u>			
ORG:	<u>Institute for Metal Physics, AN UkrSSR</u> (Institut metallofiziki AN UkrSSR)			
TITLE:	Investigation of the diffusion of nickel in the system Ni <sub>3</sub> Al—Ni <sub>3</sub> Ti			
SOURCE:	AN UkrSSR. Podvizhnost' atomov v kristallicheskoy reshetke (Mobility of atoms in crystal lattice). Kiev, Izd-vo Naukova dumka, 1965, 75-79			
TOPIC TAGS:	nickel alloy, aluminum alloy, titanium alloy, metal diffusion, nickel			
ABSTRACT:	The rate of diffusion of Ni <sup>63</sup> in the system γ-Ni <sub>3</sub> Al—γ-Ni <sub>3</sub> Ti was studied. The alloys were prepared in an induction furnace. The composition of the alloys, determined by means of chemical and x-ray analysis, was found to be in good agreement with the results of A. Taylor and R. W. Floyd (J. Inst. Metals, 1952, 80, 577). The diffusion coefficient was determined with the formula of P. L. Gruzin (DAN SSSR, 1952, 66, 289),			
$D = \frac{1}{4 \operatorname{tg} \alpha}$ <p>where D is the diffusion coefficient, tg α is the slope of the curve log N vs x<sup>2</sup> of the residual activity N at a depth x. The experimental results are presented in graphs and tables (see Fig. 1). The degree of order in γ-Ni<sub>3</sub>Al was also determined</p>				

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L 29790-66

ACC NR: AT6016345

Fig. 1. Temperature dependence of the alloy diffusion coefficients.  
1 -  $\text{Ni}_3\text{Ti}$ ; 2 -  $\text{Ni}_3\text{Al}$ ; 3 - 5% Ti;  
4 - 15% Ti; 5 - 10% Ti.



by x-ray methods. From a comparison of diffusion and x-ray data for the system  $\gamma$ - $\text{Ni}_3\text{Al}$ , it is concluded that there exists a qualitative correspondence between the mobility and long-range order of the atoms of the principal metal. Orig. art. has: 1 table, 2 figures, and 1 equation.

SUB CODE: 11/ SUBM DATE: 04Jan65/ ORIG REF: 008/ OTH REF: 006

Card 2/2 f

ACC NR: AT6036279

(A)

SOURCE CODE: UR/0000/66/000/000/0099/0104

AUTHOR: Kumok, L. M.; Larikov, L. N.; Maksimenko, Ye. A.; Yatsenko, T. K.

ORG: Institute of Metal Physics AN UkrSSR (Institut metallofiziki AN UkrSSR)

TITLE: Structural changes produced by oxidation of chromium-yttrium alloys

SOURCE: AN UkrSSR. Struktura metallicheskikh splavov (Structure of metal alloys). Kiev, Izd-vo Naukova dumka, 1966, 99-104

TOPIC TAGS: chromium yttrium alloy, metal oxidation, alloy structure, alloy oxidation rate, oxidation kinetics

ABSTRACT: The oxidation behavior at 1100--1450°C of 99.9%-pure chromium and chromium-yttrium alloys containing 0.5, 1.0 or 2.0% yttrium has been studied. It was found that yttrium improves the oxidation resistance of chromium and the oxidation rate of all the alloys tested, especially that of the alloy containing 0.5% yttrium (see Fig. 1), was much lower than that of pure chromium. On all the alloys tested, a dense tightly adhering oxide layer was formed, while the oxide layer on pure chromium easily peeled off. In pure chromium, a certain quantity of chromium oxides and nitrides was formed to a depth of 650 μ in a metal oxidized at 1450°C for 9 hr. In chromium-yttrium alloys, the amount of chromium oxides was much smaller

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ACC NR: AP6036279

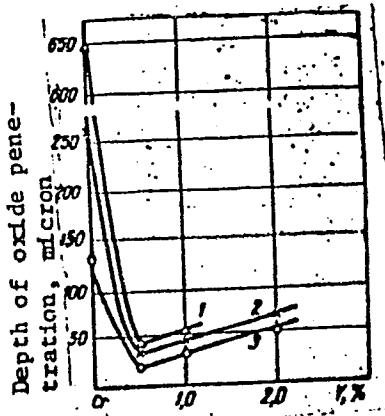


Fig. 1. Dependence of the penetration depth of oxides upon the yttrium concentration

1 ---1450°C for 9 hr; 2 ---1400°C for 20 hr;  
3 ---1350°C for 30 hr.

and the nitrides were absent altogether. The penetration of oxygen and nitrogen into pure chromium proceeds mostly along the grain boundaries. This was not observed in the chromium-yttrium alloys. It is believed that yttrium improves the oxidation resistance of chromium primarily by a refining effect. Orig. art.  
has: 5 figures.

SUB CODE: 13, 11 / SUBM DATE: 11Jun65 / ORIG REF: 005 / OTH REF: 002 / ATD PRESS: 5107

Card 2/2

L 04718-67 EWT(m)/EWP(y)/EWP(t)/ETI/EWP(k) IJP(c) JD/HM  
ACC NR: AP6027429

SOURCE CODE: UR/0125/66/000/007/0008/0011

44  
41  
B

AUTHOR: Gretskiy, Yu. Ya.; Sterenbogen, Yu. A.; Grishchenko, R. N.;  
Kherchenko, G. K.; Larikov, L. N.; Fal'chenko, V. M.; Kumok, L. M.

ORG: Gretskiy; Sterenbogen; Grishchenko; Kherchenko, Institute of  
Electric Welding im. Ye. O. Patona AN UkrSSR (Institut elektrosvarki);  
Larikov; Fal'chenko; Kumok, Institute of Metal Physics AN UkrSSR (Institut  
metalofiziki AN UkrSSR)

TITLE: Investigation of diffusion under variable heating conditions  
during diffusion welding

SOURCE: Avtomaticheskaya sverka, no. 7, 1966, 8-11

TOPIC TAGS: heat diffusion, diffusion welding, tracer study, titanium,  
iron

ABSTRACT: The possibility of using radioactive isotopes to determine  
the effect of variable short term heating on diffusion during diffusion  
welding was examined. Studies were conducted on titanium VT1 using  
cobalt-60 at welding temperatures in the range of 920-970°C. Evaluation  
of the autoradiographic method and of the method of removing layers of  
samples parallel to the plane of the weld and measuring their activity

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UDC: 621.791:536.12:532.72

L 04718-67

ACC NR: AP6027429

showed the latter to be suitable for determining diffusion coefficients for short term (3-10 min) heating. The effect of variable heating during diffusion welding on the diffusion parameters in Ti and Fe was studied experimentally and with computer calculations. It was found that the temperature variation in diffusion welding had insignificant effects on diffusion parameters, hence diffusion coefficients obtained under isothermal conditions may be used. Orig. art. has: 2 tables, 12 equations and 1 figure.

SUB CODE: 13, 20 / SUBM DATE: 16Mar66 / ORIG REF: 004 / OTH REF: 001

07 /

Joining of dissimilar metals / 8

Card 2/2

KUMOK, N. (g. Tashkent)

Beginning of a long way. Prom.koop. 12 no.11:36 H '58.  
(MIRA 11:11)

1. Zamestitel' predsedatelya pravleniya arteli "Kantskul'tprom"  
po orgmassovoy rabote i kadram.  
(Dzhaililova, Klara, 1938- )

KUMOK, V. N.

Behavior of electrolytes having a common ion with the solvent.  
Zhur. fiz. khim. 37 no. 3:658-661 Mr '63. (MIRA 17:5)

1. Tomskiy gosudarstvennyy universitet imeni V. V. Kuybysheva.

KUMOK, V.N.

Variant of standardization of chemical potential in two-component system. Zhur. fiz. khim. 37 no.6:1369-1371 Je '63.

(MIRA 16:7)

1. Khar'kovskiy gosudarstvennyy universitet imeni A.M. Gor'kogo.  
(Activity coefficients) (Electrolyte solutions)

KUMOK, V.N.

Stability and spectra of thiocyanate complexes of cobalt (II)  
in aqueous solutions. Zhur. neorg. khim. 9 no.2:362-366 F'64.  
(MIRA 17:2)  
1. Tomskiy gosudarstvennyy universitet imeni V.V. Kuybysheva,  
kafedra neorganicheskoy khimi.

Card Z/Z

DUBROVINSKIY, V.Ya.; KUMOK, V.N.

"Conducting glass" electrode for electrometric methods of analysis.  
Zhur.anal.khim. 19 no.9:1159-1161 '64. (MIRA 17:10)

Tomskiy gosudarstvennyy universitet imen' Kuybysheva.

KUMOK, V.N.; SEREBRENNIKOV, V.V.; Prinimala uchastiye SINITSYNA, G.

Stability of complex rare-earth compounds. Zhur. neorg. khim.  
10 no.9:2011-2018 S '65.

Stability of complex compounds of cations of calcium and scandium sub-  
groups. Ibid.:2019-2022 . (MIRA 18:10)

1. Tomskiy gosudarstvennyy universitet imeni Kuybysheva, kafedra  
neorganicheskoy khimii.

L 10445-66 EWT(m)/EWP(j)/T/EWP(t)/EWP(b) IJP(c) ID/TG/RM  
 ACC NR: AP6000282 SOURCE CODE: UR/0078/65/010/009/2011/2018

AUTHOR: Kumok, V.N.

*44,53*  
 Serebrennikov, V.V.

ORG: Department of Inorganic Chemistry, Tomsk State University im. V. V. Kuybyshev  
 (Kafedra neorganicheskoy khimii, Tomskiy gosudarstvennyy universitet)

TITLE: Stability of complex compounds of rare earth elements

SOURCE: Zhurnal neorganicheskoy khimii, v. 10, no. 9, 1965, 2011-2018

TOPIC TAGS: rare earth element, complex molecule, lanthanum, stability constant, least square method

ABSTRACT: The authors have collected practically all the reported determinations (carried out at 20 - 30°C at any constant ionic strength) of the stability constant  $\beta_1$  of 1:1 rare earth complexes. Using the method of least squares, they calculated parameters a and b of the equations of the curves

$$\log \beta_{Ln} = \underline{a} \log \beta_{La} + \underline{b}$$

These parameters permit a statistical generalization of the existing data on the stability constants of rare earth complexes and lead to certain conclusions concerning the change in the stability of complexes in the rare earth series. They also enabled the authors to predict the values of  $\log \beta_{Ln}$  from the measured value of  $\log \beta_{La}$  (or  $\log \beta_{Ce}$ ) after a

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UDC: 548.65:541.49

L 10445-66

ACC NR: AP6000282

simple conversion). Causes of deviations from the linear dependence of  $\log \beta_{Ln}$  on  $\log \beta_{La}$  and the possible physical meaning of the parameters are discussed. Orig. art. has: 1 figure, 4 tables, and 3 formulas.

SUB CODE: 07 / SUBM DATE: 18Feb64 / ORIG REF: 008 / OTH REF: 036

Card 2/2

L 10444-66 EWT(m)/EWP(j)/T/EWP(t)/EWP(b) IJP(c) JD/JG/RM

ACC NR: AP6000283

SOURCE CODE: UR/0078/65/010/009/2019/2022

AUTHOR: Kumok, V. N.

Serebrennikov, V. V.

ORG: Department of Inorganic Chemistry, Tomsk State University im. V. V. Kuybyshev  
(Kafedra neorganicheskoy khimii, Tomskiy gosudarstvennyy universitet)

TITLE: Stability of complex compounds of cations of the calcium and scandium subgroups

SOURCE: Zhurnal neorganicheskoy khimii, v. 10, no. 9, 1965, 2019-2022

TOPIC TAGS: lanthanide series, calcium, scandium, complex molecule, stability constant, correlation function, charged particle, ion, ionization potential

ABSTRACT: The object of the study was to determine parameters  $a$  and  $b$  of the correlations

$$\lg \beta_{ML} = a \lg \beta_{RL} + b \quad (1)$$

$$\lg \beta_{AL} = a \lg \beta_{RL} + b \quad (2)$$

where  $\beta_{ML}$ ,  $\beta_{RL}$ ,  $\beta_{LAL}$ , and  $\beta_{BAL}$  are the stability constants  $\beta_1$  of the complex compounds  $M^{3+}$  and  $R^{2+}$  ( $Y^{3+}$ ,  $Sc^{3+}$ ,  $Sr^{2+}$ , and  $Ca^{2+}$ ),  $La^{3+}$ , and  $Ba^{2+}$  respectively. In order to determine the dependence of parameter  $a_{ij}$  on the charges  $z_i$  and  $z_j$  participating in the correlation, the parameters of the following relation were calculated:

$$\lg \beta_{BAL} = a \lg \beta_{LAL} + b. \quad UDC: 546.442:541.49+546.6:541.49$$

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L 10444-66

ACC NR: AP6090283

The values obtained were:  $a = 0.5806 \pm 0.0079$ ;  $b = -0.996 \pm 0.082$ ;  $s = 0.441$  (standard deviation). It is shown that parameter  $\underline{a}_{ij}$  is equal to the ratio of the ionic potentials  $\underline{z}_j/\underline{r}_{iw}$  and  $\underline{z}_j/\underline{r}_{jw}$  of the ions plus a correction for the effect of extrastabilization by the ligand field for ions with an unfilled  $f$  shell. Orig. art. has: 1 figure, 3 tables, and 6 formulas.

SUB CODE: 0724 SUBM DATE: 08Jun64 / ORIG REF: 008 / OTH REF: 010

PO  
Card 2/2

KUMOK, V.N.; SEREBRENNIKOV, V.V.

Complex compounds of lanthanum, yttrium, lutecium, and  
scandium with xylanol orange. Zhur.neorg.khim. 11 no.1:  
90-92 Ja '66. (MIRA 1961)

1. Kafedra neorganicheskoy khimii Tomskogo gosudarstvennogo  
universiteta imeni V.V.Kuybysheva. Submitted July 8, 1964.

KUMOK, Yu.Z. (Khar'kov); NOVGORODTSEVA, L.Z. (Khar'kov)

Minor natural vibrations of a rotating cylinder partly filled  
with a liquid. Prikl. mekh. 1 no.12:87-94 '65.

(MIRA 19:1)

1. Khar'kovskiy politekhnicheskiy institut. Submitted March 26,  
1965.

KUMONOK, I.M., aspirant

Statistics of primary cancer of the lungs according to materials  
of the department for 1945-1959. Trudy Khar. med. inst. no.50:131-  
137 '62.

Giant-cell cancers of the lungs. Ibid.:138-143  
(MIRA 19:1)

1. Kafedra patologicheskoy anatomii (zav. - prof. G.L.Derman)  
Khar'kovskogo meditsinskogo instituta.

KUMOR, I.; IAKKOVSKI, A.; IAKKOVSKI, IL.

"Technology on production of cast iron with spherical graphite in a hermetically closed casting mold.

TEZHA PROMISHLENST, Sofia, Bulgaria, Vol. 3, no. 5, Mar. 1959

Monthly list of West Europe Accessions (ELAI), LC, Vol. 3, No. 6, Sept 59  
Unclass

SOV/128-59-10-2/24

18(3,4,5)

AUTHORS: Yankovskiy, A., Pyaskovskiy, I., and Kumor, I., Engineers

TITLE: Production of Magnesium Cast Iron in a Sealed Ladle While Using Magnesium Rods

PERIODICAL: Liteynoye proizvodstvo, 1959, Nr 10, pp 8-10 (USSR)

ABSTRACT: The authors present a report on experiences gathered in the fields of magnesium cast iron production in Poland. The report is based on the refs.1-11. A substantial improvement in the production process was reached only by using specially sealed ladles (JPK-58) (Ref.12). These ladles work at a low pressure. The sealed ladles have a capacity of 1750 kg. Fig.1 gives the layout of such a sealed ladle. #1 in the diagram is a steel bush; #2 is the flange with cover; #3 are both of the ferrite magnesium cast iron or steel sheets, #4 is the stand. The cover (3) is sealed by the fire resistant clay (5), with six bolts (6). Before the cast iron treatment, the ladles are well preheated (Fig.2). Experience showed that the results are better, if the ferrosilicon is not introduced at once, but in two or three stages. The initial cast iron - be-

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SOV/128-59-10-2/24

Production of Magnesium Cast Iron in a Sealed Ladle While Using Magnesium Rods

fore any additional elements are lead in ... has the following composition: 3.3-3.7% C; 1.5-2.2% Si; 0.4-0.6% Mn; 0.09-0.13% P; 0.06--0.1% S. With the help of the described device it is possible to obtain high quality cast irons 1) of type ZnP-55 pearlitic and 2) ferrite 10, according to the Polish Standard RN-53/MPM-22002. This method is already being used in several foundries in Poland. The publications of R. Radtke in Leipzig are mentioned (Refs.9-10). There are 2 diagrams, 2 graphs, 1 table and 19 references, 1 of which is Soviet, 12 Polish, 3 English, 2 German and 1 Czech.

Card 2/2

JANKOWSKY, A. (Krakko); PIASKOWSKY, J. (Krakko); KUMOR, J. (Krakko)

Manufacturing globular cast iron in a locked ladle. Koh lap 93  
no. 3. Suppl: Ontode ll no. 3:55-59 Mr '60.

KUMOR, L.

"Soviet Research on Decreasing the Shrinkage of Frozen Meat", P. 305,  
(GOŁĘBIEWSKA : JEZIORA, Vol. 6, No. 10, Oct. 1954, Warsaw, Poland)

SO: Monthly List of East European Acquisitions, ("EAL"), LC, Vol. 4,  
No. 5, May 1955, Uncl.

KWIOR, L.

"Problem of Ventilation of Refrigerator Cars during the Transportation of Meat", p. 8, (GOSPODARKA MIESZK., Vol. 7, No. 1, Jan. 1955, Warszawa, Poland)

SO: Monthly List of East European Accessions, (EAL), LC, Vol. 4, No. 5, May 1955, Uncl.

KUMOREK, J.

Some remarks concerning the production of coarse thin paper for decorative  
turroses. p. 237.

Vol. 11, no. 2, Aug. 1955

PRZEGLAD PAPIERNICZY, Lodz

SOURCE: East European Accessions List (EEAL), IC, Vol. 5, no. 2, Feb. 1956

COUNTRY : POLAND H  
CATEGORY : Chemical Technology. Chemical Products and Their Applications. Cellulose and Its Derivatives.Paper  
ABS. JOUR. : RZhKhim., No 17, 1959, No. 33073  
  
AUTHOR : Kumorek, J.  
INSTITUTE : -  
TITLE : Paraffine Wax and Other Additives  
  
ORIG. PUB. : Przegl. papiern., 1958, 14, No 11, 341  
  
ABSTRACT : In imparting greater gas and vapor tightness to wrapping wax paper it is recommended that for the covering layer the composition of paraffine wax should include mineral oil, natural or synthetic cerisin, petrolatum etc. Brittleness of the surface layer and the rapidity of drying is thus greatly decreased. For the elimination of corrosion, pH of the protective layer should be maintained in the 6.5-7.3 limits (i.e. with chlorine compounds < 0.01%, and sulfur compounds < 0.05%)  
Ye. Gurvich.

Card: 1/1

"APPROVED FOR RELEASE: 06/19/2000

CIA-RDP86-00513R000927520004-2

3156.

Mr. Howard George (Continued) 3156.

APPROVED FOR RELEASE: 06/19/2000

CIA-RDP86-00513R000927520004-2"

КУПОЛСКАЯ, 101-2.

PLAKSIN, S.A., nauchnyy sotrudnik; PLATONOV, M.F., nauchnyy sotrudnik;  
SMIRNOV, V.I., nauchnyy sotrudnik; KUMOSHENSKIY, M.D., nauchnyy  
sotrudnik.

Increasing the size of bales of unbleached fabric. Tekst.prom.  
17 no.10:59-60 O '57. (MIRA 10:12)

1.Ivanovskiy nauchno-issledovatel'skiy tekstil'nyy institut.  
(Cotton fabrics)

"APPROVED FOR RELEASE: 06/19/2000

CIA-RDP86-00513R000927520004-2

KUMOV, V. I.

DECEASED

1963/1

c. 1961

CHEMISTRY

SEE ILC

APPROVED FOR RELEASE: 06/19/2000

CIA-RDP86-00513R000927520004-2"

Bv. abo KUNIP, M.

BIII-1 Agriculture

Inheritance of ear node number in hulled and naked types of two-rowed winter barley. M. Kamp (*Hrv. Agric. Sci.*, Zagreb, 1950, 18, 141-163).—Three genotypes of hulled and 3 of naked barley were crossed. The relatively higher no. of ear nodes of the hulled genotypes was a dominant polymeric character. The crossing of hulled types with a high node no. with naked genotypes of relatively higher productivity, may produce a 2-rowed naked genotype of higher productivity than the existing varieties in Yugoslavia as a result of the increase in ear node no. in the crosses.

P. J. BOYER

Be Abo

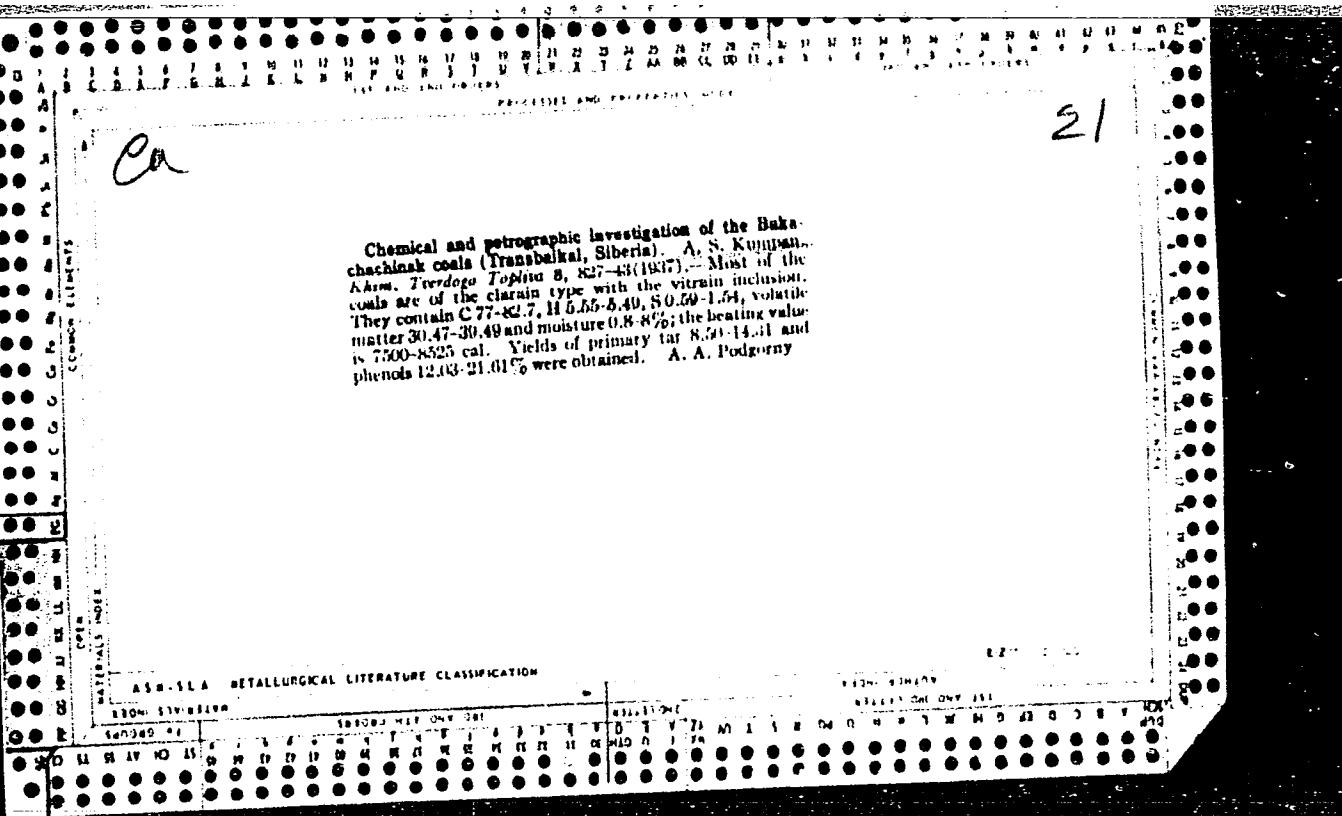
KUMP, M.

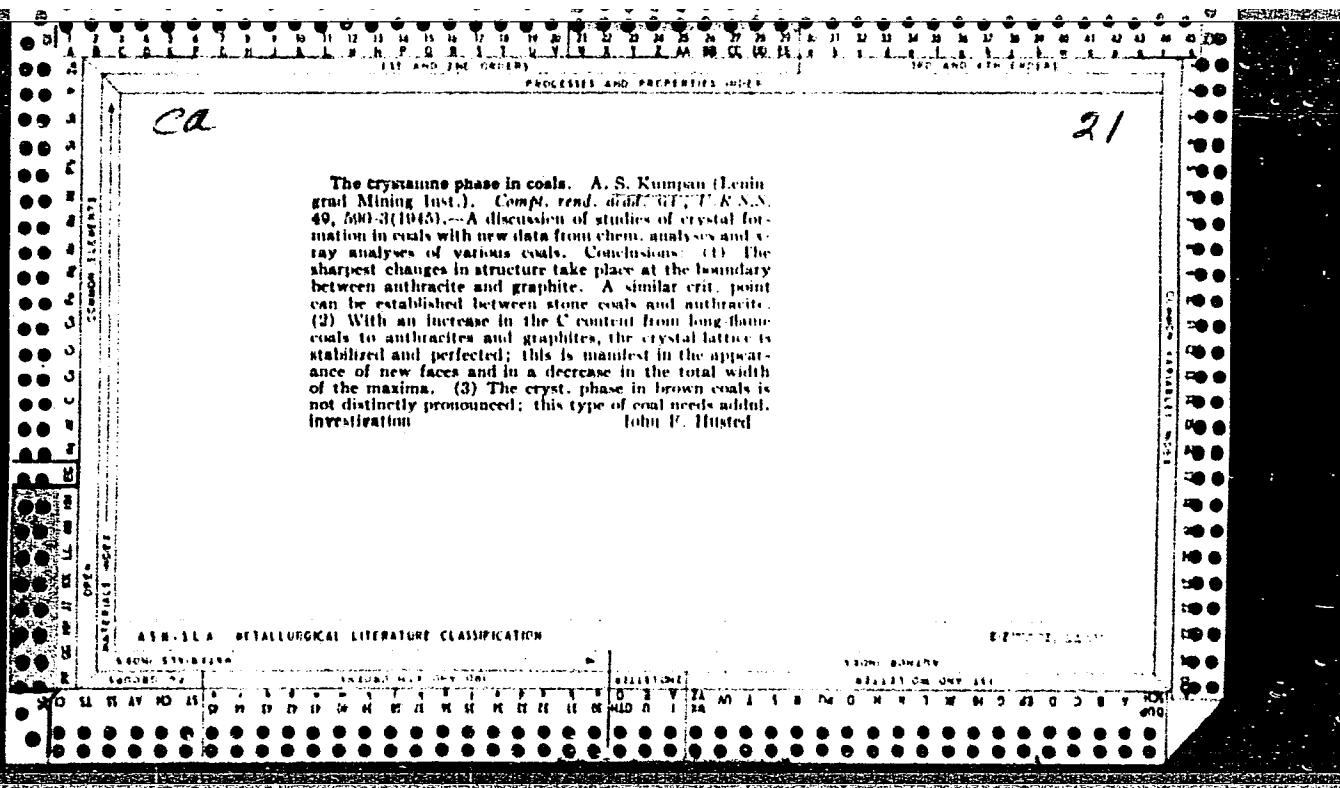
8111-1 Agriculture

Inheritance of vascular bundles in the stem of hulled x naked two-rowed winter barley. M. Kump, (Agric. Sci. Agric., Zagreb, 1950, 118, 117-162).—In crosses between 8 naked and 3 hulled types, the relatively larger no. of vascular bundles in the hulled genotypes was a dominant polymeric character in the F<sub>1</sub> generation. The crossing of naked and hulled genotypes may result in naked genotypes with a large no. of vascular bundles in the stem, with high yields and lodging-resistance. P. J. BOYLE.

21

Chemical and petrographic investigation of the Buka-chachinak coals (Transbaikal, Siberia). A. S. Kurnikov. *Tverdogo Toplina* 8, 827-43 (1957).—Most of the coals are of the clarain type with the vitrinite inclusion. They contain C 77-82.7, H 6.65-8.49, S 0.59-1.54, volatile matter 30.47-39.49 and moisture 0.8-8%; the heating value is 7500-8325 cal. Yields of primary tar 8.50-14.31 and phenols 12.03-21.01% were obtained. A. A. Podgorny





Changes of the inner structures of coals by metamorphism. A. S. Kumpin. Zapiski Versov. Mineral. Obshchestva (Mém. soc. russe mineral.) 77, 285-303 (1948).—The metamorphism of coal sediments is a continuous process, indicated by characteristic structural changes, and originating from geol. factors acting, especially temp. and pressure, as variables. The end of these changes is the chem. equil. of the new mol. structures with the chem. and phys. conditions, to form a homogeneous system. The process is described in its petrographic and chem. marks, especially the progressive tendency to form cryst. end products, more and more approximating graphite structures. The changes are pursued from the brown coal type to anthracite and graphite in the phys. changes easily observed. They are

characterized by the progressively more distinct interference lines in the x-ray diagrams, and the increase of their intensities. The absence of all the characteristics for graphite in ordinary coals, the much different structural parameters, and the absence of any continuous transition from anthracite to graphite being about the hypothesis that a series of intermediate compds. may exist. If an artificial cryst. by a sudden heating to high temps., however, is done, or in nature a contact metamorphism is active, nuclei of graphite are formed in the coal substance which may grow to graphite crystals. Such a highly accelerating process is, e.g. the coke production from coals; the temp. is highly important for the structure of the coke; a residual coke from brown coals, heated to 800°, may be cryst., while coke from anthracite will not have been much changed from its original character. The degree of metamorphism of a given coal is detd. by the following data: (a) the no. of interference lines in the x-ray diagram; (b) the width of the max. of corresponding lines, measured on the photogram; (c) the intensity of the lines. W. Etel.

30759. KUMPAN, A. S.

Sovremennyye predestavleniya o vnutrenney strukture ugley i zadachi yeye  
dal'neyshego izucheniya. (Obzor literatury). Zapiski Vsesoyuz. mineral. o-va, 2-ya  
seriya, 1949, vyp. 3, 227-33. -- Bibliogr: 8 nazv.

~~Geophysics - Seismographic Prospecting~~ KUMPAI, A. S.

May/Jun 53

"Review of 'Instructions for Seismic Prospecting,'" (I. Berzon and A. Yeninam'yeva, reviewers)

In Akad. Nauk SSSR, Ser Geofiz, No 3, pp 271-274

Review the symposium "Instruktsiya po geofizicheskoy seismicheskoye," a compilation of works contributed by A. S. Kumpai, V. N. Mitrofanov, N. A. Kolosovskaya, T. E. Sokolova, N. S. Adir'yeva in participation with I. I. Gurzely, M. G. Shmidt, and G. N. Shabalin'skiy, and edited by I. K. Kypolov-Yurepov. Published by the State Geology Press, Moscow, 1952, 94 pp, 5,000 copies, 2.00 rubles.

258T90

VELIKIY, A.S.; KUMPAH, A.S.

Some regularities in the occurrence of polymetallic deposits in the  
interior of the Dzungarian-Balkhash structure. Inform.shor.VSEOMI  
no.2:53-56 '55. (MLRA 9:11)

(Balkhash region--Ore deposits)

KRONIDOV, I.I.; KUMPAK, A.S.; RYABKOVA, M.S.

New data on the geological pattern and structural features of the Balkhash region and Sary-su Depression, based on the results of aeromagnetic prospecting [with summary in English]. Sov. geol. 1 no.8:54-71 Ag '58. (MIRA 11:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy geologicheskiy institut.  
(Kazakhstan -- Geology) (Prospecting -- Geophysical methods)  
(Rocks -- Magnetic properties)

VELIKIY, A.S.; KNYAZEV, I.I.; KUMPAK, A.S.

Distribution of complex metal deposits in the Sarysu-Balkhash-Nura watershed. Trudy VSEGEI 32:129-203 '60. (MIRA 13:11)  
(Kazakhstan--Ore deposits)

ABULKABIROVA, N.A.; ALEKSANDROVA, M.I.; AFONICHEV, N.A.; BANDALETOV, S.M.; BESPOLOV, V.F.; BOGDANOV, A.A.; BOLOVIKOV, L.I.; BORSUK, B.I.; BORUKAYEV, R.A.; BUVAL'KIN, A.K.; BYKOVA, M.S.; DVORTSOVA, K.I.; DEMBO, T.M.; ZHUKOV, M.A.; ZVONTSOV, V.S.; IVSHIN, N.K.; KOPYATKEVICH, R.A.; KOSTENKO, N.N.; KUMPAN, A.S.; KUL'DYUKOV, K.V.; LAVROV, V.V.; LYAPICHEV, G.F.; MAZURKEVICH, M.V.; MIKHAYLOV, A.Ye.; MIKHAYLOV, N.P.; MYCHNIK, M.B.; NIDLENKO, Ye.N.; NIKITIN, I.F.; NIKIFOROVA, K.V.; NIKOLAYEV, N.I.; PUPYSHEV, N.A.; RASKATOV, G.I.; RENGARTEN, P.A.; SAVICH'eva, A.Ye.; SALIN, B.A.; SEVRYUGIN, N.A.; SEMENOV, A.I.; CHERNYAKHOVSKIY, A.G.; CHUYKOVA, V.G.; SHLYGIN, Ye.D.; SHUL'GA, V.M.; EL'GER, E.S.; YAGOVKIN, V.I.; NALIVKIN, D.V., akademik, red.; PERMINOV, S.V., red.; MAKRUSHIN, V.A., tekhn.red.

[Geological structure of central and southern Kazakhstan]  
Geologicheskoe stroenie TSentral'nogo i Juzhnogo Kazakhstana.  
Leningrad, Otdel nauchno-tekn.informatsii, 1961. 496 p.  
(Leningrad. Vsesoiuznyi geologicheskii institut. Materialy, no.41)  
(MIRA 14:7)

" (Kazakhstan--Geology)

KUMPAN, A.S.

Practice of using seismic prospecting in Ural pyritic copper  
deposits. Vop.rud.geofiz. no.3:46-59 '61. (MIRA 15:8)  
(Ural Mountains--Seismic prospecting)

KUMPAK, A.S.

Relationship between the Tengiz Dzhezkazgan Depressions in the  
Upper Paleozoic of central Kazakhstan. Trudy VSEGEI 74:21-36  
'62. (MIRA 15:9)

(Tengiz Depression--Folds (Geology))  
(Dzengazgan Depression--Folds (Geology))

KUMPAN, A.S.

Seismic prospecting in studying the upper part of a cross section  
of northern Ciscaucasia. Vop. razved. geofiz. no.3:23-39 '64.  
(MIRA 18:2)

KUMPAK, K.A.

Changes in peripheral circulation in wound infections. Medych.  
zhur. 17:332-346 '47. (MIRA 11:1)

1. Z viddilu funktsional'noi terapii (zav. viddilu - prof. F.Ye.  
Primak) Ukrains'kogo institutu klinichnoi meditsini (direktor -  
akad. M.D.Strazhesko)  
(BLOOD--CIRCULATION, DISORDERS OF) (WOUNDS)

KUMPAK, K.O.

Comparative changes in the capillaroscopic picture in hypertension.  
Medyoh, zhur. 21 no. 6:28-35 '51. (MIRA 11:1)

1. Z viddilu funktsional'noi terapii (zav. viddilom - prof. F.Ya. Primak) Ukrains'kogo institutu klinichnoi meditsini (direktor - akad. M.D.Strazhesko)  
(HYPERTENSION) (CAPILLARIES)

*Klumpan, K.A.*

BELONOZHKO, V.M., kand.med.nauk; PRIMAK, V.M.; KUMPAN, K.O.; CHUPRINA, K.F.;  
ZANOZDRA, M.S.; VOLKOVA, I.O.

Role of oxygen therapy in controlling a hypotensive syndrome. Medych,  
zhur. 21 no.6:44-54 '51.  
(MIRA 11:1)

1. Z viddilu funktsional'noi terapii (zav. - prof. F.Ya.Primak)  
Ukrains'kogo institutu klinichnoi meditsini (direktor - akad.  
M.D.Strazhesko)

(HYPOTENSION) (OXYGEN--THERAPEUTIC USE)

KUMPAN, K. A.

Kumpan, K. A.

"Changes in peripheral blood circulation in the clinical treatment of hypertonic disease." Kiev Order of Labor Red Banner Medical Inst imeni Academician A. A. Bogomolets. Kiev, 1956. (Dissertation for the Degree of Candidate in Technical Science.)

Knizhnaya letopis'  
No. 15, 1956. Moscow.

DIMO, V.N.; KUMPAK, L.E.

Using processed gumbrin for turf-Podzolic sandy-loam soils of  
Moscow Province [with French summary in insert]. Pochvovedenie  
no.7:106-110 Jl '56.  
(MLRA 9:11)

1. Pochvennyy institut imeni V.V.Dokuchayeva Akademii nauk  
SSSR.  
(Moscow Province--Soil conditioners)

KUMPAN, M.F.; BALAGANSKAYA, V.Ye., kand. sel'skokhoz. nauk

Soil map of a collective farm. Zemledelie 27 no.1:56-58  
Ja '65. (MIRA 18:3)

1. Predsedatel' kolkhoza imeni XXI s"yezda Kommunisticheskoy  
partii Sovetskogo Soyuza Belyayevskogo rayona, Odesskoy oblasti  
(for Kumpan).

GDR / Analytical Chemistry. Organic Analysis.

E

Abs Jour : Ref Zhur - Khimiya, No 23, 1959, No. 82016

Author : Kumpan, P.

Inst : Not given

Title : The Techniques of Elemental Analysis. Part I  
(continuation). Semimicro Determination of  
Carbon and Hydrogen

Orig Pub : Chem. Techn., 1958, 10, No 11; Glassapparate-  
chnik, No 4, 25-30

Abstract : The general procedures for the determination  
of C and H through combustion of the organic  
substance (sample weights 25-45 mg) in an O<sub>2</sub>  
stream inside a filled tube (PbO<sub>2</sub> or CuO and Ag)  
heated automatically are described; the  
arrangement for connecting the absorption  
system to the tube, the regulation of the O<sub>2</sub>

Card 1/3

30

GDR / Analytical Chemistry. Organic Analysis.

E

Abs Jour : Ref Zhur - Khimiya, No 23, 1959, No. 82016

stream, the execution of the blank experiment, the selection of the standard substance, the technique of weighing solid, viscous, liquid, and inflammable substances; the execution of combustion of solid and liquid substances manually or automatically. The viscous substances are previously diluted, while heating in a dry box, are placed in a tared boat, weighed after 10 minutes, and the sample in the boat is covered with a layer of quartz. A small  $KClO_3$  crystal is placed on the bottom of the capillary tube for poorly inflammable substances. A special protective rod wrapped with Pt wire, is placed in the tube after introducing the sample weight. The combustion of nonvolatile substances is carried out in an  $O_2$

Card 2/3

GDR / Analytical Chemistry. Organic Analysis.

E

Abs Jour : Ref Zhur - Khimiya, No 23, 1959, No. 82016

stream (14-15 ml/min), and of volatile substances, in an air stream; the automatic heating is used for successive analyses only. Before weighing the absorption apparatus, the stopcocks are opened and closed to bring the pressure to atmospheric. The maximum error for C is  $\pm 0.3\%$ ; for H, from +0.2 to -0.1%. For the beginning of the article, see RZ Khim, No 12, 1959, No. 42139. -- V. Miroshina

Card 3/3

31

KUMPAN,, P.V., kand.arkhitektury; GORSHKOV, A.P., red.izd-va; RUDAKOVA,  
N.I., tekhn.red.

[Standards, plans, and arrangements for city hospitals] Tipy  
i struktura gorodskikh bol'nits. Moskva, Gos.izd-vo lit-ry po  
stroit. materialam, 1958. 47 p. (MIRA 12:6)  
(Hospitals)

"APPROVED FOR RELEASE: 06/19/2000

CIA-RDP86-00513R000927520004-2

KUMPAK, P.V., kand.arkhitektury, KOSITSKIY, Ya.V., kand.arkhitektury,  
SAMSONOV, G.A., arkitektor

Urban medical services and new types of hospitals. Izv. ASIA  
no.2:78-87 '60.  
(MIRA 13:7)  
(Hospitals—Construction)

APPROVED FOR RELEASE: 06/19/2000

CIA-RDP86-00513R000927520004-2"

KUMPAN, P.V.; KALININA, G.F.; IMANOV, M.N.; Prinimali uchastiye:  
NECHAYEV, G.A., inzh.; DOROGOV, N.F., inzh.; GOFMAN, S.M.,  
inzh.; MAL'TSEV, V.I., inzh.; CHERNYSHOVA, L.B., inzh.;  
VORONINA, T.V., red. izd-va; BRUSINA, L.N., tekhn. red.

[Summer health - resort towns] Letnie kurortnye gorodki. Moskva,  
Gosstroizdat, 1962. 142 p. (MIRA 16:1)

1. Akademiya stroitel'stva i arkhitektury SSSR. Institut ob-  
shchestvennykh zdaniy i sooruzheniy.  
(Summer resorts)

APLONOV, V.S.; KUMPAK, Ye.A.

Some field-work results achieved by the N'olon prospecting  
team. Inform. biul. NIIGA no.17:35-41 '59. MIRA 15:11)  
(N'olon Valley--Prospecting)

KUMPEL, Q.

Analysis of psychiatric morbidity among individual occupational groups of a large industrial plant. Activ. nerv. sup. 4 no. 2:197  
'62.

1. Psychiatricka lecебna v Opave.

(MENTAL DISORDERS statist) (OCCUPATIONS AND PROFESSIONS)

CZECHOSLOVAKIA

G. KEMPEL, I. SOKOL, A. TOPIAR and F. UHLIR, Psychiatric Hospital  
(psychiatricka lecebna,) Opava.

"Comparison of Effectiveness of Ataractics and Classical Therapy in Schizophrenia."

Prague, Activitas Nervosa Superior, Vol 5, No 2, May 63; p 194.

Abstract: Conclusions but no data from a clinical study: hospitalization is significantly longer in patients treated with classical methods (ECT, insulin) alone or in combination with ataractics, but duration of remission is greatest after classical methods too. Classical Methods + ataractics produce longer hospitalizations than classical methods alone. Until the third remission, the number of remissions is equal for all groups.

1/1

KUMPEL, Q.

Specialties of the mental disorders of miners. Activ. nerv.  
sup. 6 no.197 '64

\*

KUMPEL, Q.; SOKOL, I.; TOPIAR, A.; OHLIR, F.

Catamnestic study in schizophrenic patients from the viewpoint  
of their social assertion. Activ. nerv. sup. 6 no.1:101 '64.

"APPROVED FOR RELEASE: 06/19/2000

CIA-RDP86-00513R000927520004-2

Analyst, C.

Analysis of psychiatric morbidity in a heavy industry factory.  
Interv. psych. susp. (French) 6 no. 3:1973 p. 164.

1. psychopathological lesions in factory workers  
2. social factors influencing mental health in factories.

APPROVED FOR RELEASE: 06/19/2000

CIA-RDP86-00513R000927520004-2"

L 12934-66

ACC NR: AP6005672

SOURCE CODE: CZ/0079/65/007/002/0184/0184

10  
B

AUTHOR: Kumpel, Q.

ORG: Psychiatric Hospital, Opava (Psychiatricka lecebna)

TITLE: Psychiatric view of work accidents and of their prevention [This paper was presented at the Third Interdisciplinary Conference on Experimental and Clinical Study of Higher Nervous Functions held in Marianske Lazne from 19 to 23 October 1964.]

SOURCE: Activitas nervosa superior, v. 7, no. 2, 1965, 184

TOPIC TAGS: psychiatry, man, behavior pattern, industrial hygiene

ABSTRACT: 25 miners with a high accident rate were examined psychiatrically. 80% of the accidents were caused by the workers themselves. 48% of the miners were under 25 years of age; the mean age of the employees was 35. In  $\frac{1}{4}$  of the cases, the accident was due to the miners' haste. 20% had subnormal intelligence, 32% had hyperactive traits of character; these may be due to perinatal encephalopathy and resulting instability. Prevention of accidents by psychological and psychiatric help is discussed. [JPRS]

SUB CODE: 06, 05 / SUBM DATE: none

Card 1/1 HU

L 29416-66

ACC NR: AP6019956

SOURCE CODE: CZ/0079/65/007/003/0243/0243

AUTHOR: Hrebicek, S.; Kumpel, Q.; Sokol, I.; Topiar, A.; Grumlik, R.; Uhlir, F.

ORG: Psychiatric Hospital, Opava (Psychiatricka lecebna)

TITLE: Comparison of effects of classical and combined therapy in schizophrenia  
This paper was presented at the 7th Annual Psychopharmacological Meeting, Jesenik, 22-23 January 1965

SOURCE: Activitas nervosa superior, v. 7, no. 3, 1965, 243

TOPIC TAGS: therapeutics, psychoneurotic disorder, drug treatment

ABSTRACT: Pacification of the florid schizophrenic, his socialization, and his contact with the physician were investigated. 91 schizophrenic patients admitted to authors' hospital in 1954-1961 were studied. 39 patients received the classical convulsive treatment and 52 the combined treatment. 76 patients improved during the treatment and 15 did not change. Those who did not improve received the classical convolution treatment. A significant difference in favor of the combined treatment including psychopharmacological treatment was noticed. An average of 29 days was needed to attain manageability using drugs, compared with 42 days with the shock treatment. For sociability the periods were 41 and 54, respectively, and for care of appearance 24 and 40. [Orig. art. in Eng.] [PRS]

SUB CODE: 06/ SUBM DATE: none  
Card 1/1 CC

"APPROVED FOR RELEASE: 06/19/2000

CIA-RDP86-00513R000927520004-2

KUMPERA, Otakar

Geology of the culm situated between Krnov and Třemesňa.  
Prir čas slezsky 22 no.4:491-511 '61.

APPROVED FOR RELEASE: 06/19/2000

CIA-RDP86-00513R000927520004-2"

KUMERA, Otakar

Contribution to the classification of Flysch unevenness of  
undersurface. Sbor VSB Ostrava 10 no.1/2:103-132 '64.

1. Submitted August 1, 1963.

KUMPF, G.; KARNAUKHOV, V.A.

Characteristics of the decay of compound dysprosium nuclei  
with high angular momentum. Zhur. eksp. i teor. fiz. 46  
no. 5:1545-1552 My '64. (MIRA 17:6)

1. Ob'yedinennyj institut yadernykh issledovanij.

DONETS, Ye.D.; KARNAUKHOV, V.A.; KUMPF, G.; GVOZDEV, B.A.; CHUBURKOV,  
Yu.T.; SARANTSEVA, V.R., tekhn. red.

[Study of the nuclear reaction Th<sup>232</sup>(Ne<sup>22</sup>, 4n)Fm<sup>250}] Izuchenie  
iadernoj reaktsii Th<sup>232</sup>(Ne<sup>22</sup>, 4n) Fm<sup>250}. Dubna, Ob"edinennyi  
in-t iadernykh issl., 1962. 10 p.  
(Nuclear reactions)</sup></sup>

(MIHA 15:4)

24.6600

39661  
S/056/62/043/001/003/056  
B181/B102

AUTHORS: Donets, Ye. D., Karnaikhov, V. A., Kumpf, G., Gvozdev, B. A., Chuburkov, Yu. T.

TITLE: The nuclear reaction  $^{90}\text{Th}^{232}(\text{Ne}^{22}, 4n)^{100}\text{Fm}^{250}$

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 43, no. 1(7), 1962, 11 - 15

TEXT: Measurements were made of the dependence of the  $^{90}\text{Th}^{232}(\text{Ne}^{22}, 4n)^{100}\text{Fm}^{250}$  reaction cross section on the energy of the bombarding ions. The ions were extracted from the 300 cm cyclotron of the OIYAI. A thorium foil, 2 - 2.6 mg/cm<sup>2</sup> thick, served as a target and a 3  $\mu$  thick silver foil chemically prepared with tenoiltrifluoro acetone, was used to collect the recoil nuclei. Fermium (yield 50 %) was separated from the organic phase by anodic precipitation. Fm<sup>250</sup> was identified from its 7.43 Mev  $\alpha$ -emission. The 7.65 Mev line of Po<sup>214</sup> was found to interfere. The reaction cross section has its maximum of  $\sim 2.5 \cdot 10^{-31} \text{ cm}^2$   
Card 1/2

The nuclear reaction ...

S/056/62/043/001/003/056  
B181/B102

at an ion energy of 107 Mev, and has a half-width of about 11 Mev. The cross section of the reaction  $^{92}_{\text{U}} \text{U}^{238} ({}^{\text{16}}_{\text{8}} \text{O}, 4n) {}^{100}_{\text{Fm}} \text{Fm}^{250}$ , which was investigated earlier (T. Sikkeland, S. G. Thompson, A. Chirosso, Phys. Rev., 112, 543, 1958; V. P. Perelygin, Ye. D. Donets, G. N. Flerov, ZhETF, 37, 1558, 1959), reached a maximum of  $10^{-30} \text{ cm}^2$ , that of the reaction  $^{94}_{\text{Pu}} \text{Pu}^{241} ({}^{\text{13}}_{\text{6}} \text{C}, 4n) {}^{100}_{\text{Fm}} \text{Fm}^{250}$  one of  $6 \cdot 10^{-30} \text{ cm}^2$ . The experiments showed that the maximum cross section decreases much faster with increasing mass of the bombarding particles than is predicted by the theory. This is explained as follows: Either the nucleus is deformed in a collision so that the Coulomb barrier increases, or the system of the two nuclei is excited to perform vibrations so that the probability of fission prior to emission of the first neutron increases. There are 3 figures and 1 table.

ASSOCIATION: Ob'yedinenyyi institut yadernykh issledovaniy (Joint Institute of Nuclear Research)

SUBMITTED: January 24, 1962  
Card 2/2

KUMPF, G; KARNAUKHOV, V.A.

[Characteristics of the decay of dysprosium compound  
nuclei with high angular momentum] Osobennosti raspada  
sostavnykh iader disproziia s vysokim uglovym momentom.  
Dubna, Ob"edinennyi in-t iadernykh issledovanii, 1963. 13 p.  
(MIRA 16:10)

(Dysprosium--Decay)

L 17598-63  
ES(w)-2 EWT(1)/EWP(q)/EWT(m)/BDS/  
AFPTC/ASD/IJP(C)/SSD Pab-4 JD S/056/63/044/003/003/053

65

AUTHOR: Kumpf, G. and Donets, Ye. D.

TITLE: Some transfer reactions occurring during irradiation of thorium  
by  $\text{Ne}^{22}$  ions

PERIODICAL: Zhurnal eksperimental'noy i tekhnicheskoy fiziki, v. 44, no. 3,  
1963, 798-803

TEXT: The recent papers by I. Brandstetr, M. Krzhivanek, Ya. Maly, and Su  
Su Hung-Kuei (Ref. 4: Preprint OIYaI, R-978, Dubna, 1962) and G. N. Flerov,  
V. V. Volkov, L. Pomorskiy, Ya. Tys (Ref. 5: ZhETF, 41, 1365, 1961) dealing with  
transfer reactions of several nucleons during heavy-ion reactions were followed by  
attempts at theoretical explanations using the tunnel-effect, shrapnel-effect, the  
model of "skidding collisions", etc.. The authors wanted to test these various  
theories by investigating in detail the transfer of larger numbers (5 to 8) of  
nucleons during heavy ion interactions in a  $\text{Th}^{232}$  target bombarded by  $\text{Ne}^{22}$  ions.  
They registered  $\alpha$ -active products identified as  $\text{Th}^{227}$ ,  $\text{Ac}^{226}$ ,  $\text{Ac}^{225}$ , and  $\text{Ac}^{224}$   
and obtained their production cross sections as functions of the incident particle

Card 1/4

L 17598-63

S/056/63/044/003/003/053

O

Some transfer reactions...

energy which increase smoothly from  $\sim 10^{-30} \text{cm}^2$  near the Coulomb barrier to  $\sim 10^{-27} \text{ cm}^2$  at 154 Mev. The angular distribution of resulting nuclei is shown on Fig. 5. The fact that the maxima of the angular distribution are to the right of the Rutherford angle testifies that the particles are moving basically along Coulomb orbits which are perturbed little by the nuclear interaction, and the reaction must occur on the nuclear surface. At the same time, the shift of the maxima of particular isotopes indicates the existence of some nuclear interaction which increases with the number of transferred nucleons. The discovered relationships cannot be explained by the existing models for the mechanism of transfer reactions. There are 5 figures and 1 table.

Card 2/4

ACCESSION NR: AP4037563

8/0056/64/046/005/1545/1552

AUTHORS: Kumpf, G.; Karnaukhov, V. A.

TITLE: Some features of the decay of compound dysprosium nuclei  
with large angular momenta

SOURCE: Zh. eksper. i teor. fiz., v. 46, no. 5, 1964, 1545-1552

TOPIC TAGS: dysprosium, compound nucleus, excitation spectrum,  
high energy particle, nuclear spin, nuclear structure, nuclear  
transformation

ABSTRACT: In view of the advantages offered by heavy ions when  
used as bombarding particles to investigate the behavior of compound  
nuclei over a wide range of excitation energies and of angular mo-  
menta, measurements were made of the energy dependence of the cross  
sections for the following nuclear reactions: Cd<sup>116</sup>(Ar<sup>40</sup>, 7n)Dy<sup>149</sup>,

Card 1/4

ACCESSION NR: AP4037563

$\text{Cd}^{116}(\text{Ar}^{40}, 6n)\text{Dy}^{150}$ ,  $\text{Cd}^{116}(\text{Ar}^{40}, 5n)\text{Dy}^{151}$ ,  $\text{Cd}^{114}(\text{Ar}^{40}, 5n)\text{Dy}^{149}$ ,  
 $\text{Cd}^{114}(\text{Ar}^{40}, 4n)\text{Dy}^{150}$ , and  $\text{Cd}^{114}(\text{Ar}^{40}, 3n)\text{Dy}^{151}$ . The reason for choosing Cd as the target was that the  $(\text{Ar}^{40}, xn)$  reactions yield  $\alpha$ -active rare-earth isotopes, which can be readily identified without the use of chemical separation. The targets were enriched isotopes of  $\text{Cd}^{116}$ . The experiment and the registration procedure are described in detail. The experimental data are analyzed on the basis of the generalized jackson model (constant nuclear temperature) with allowance for the rotation and limitation of the possible values of the spin. The calculated excitation functions are in good agreement with the experimental data with parameters  $T = 3 \text{ MeV}$  and  $J = 75 \pi$  (limiting angular momentum), with the moment of inertia of the compound nucleus being that of the rigid body. "The authors thank G. N. Flerov for support, Professor I. Schintlmeister and K. Kaufmann of the Central Institute of Nuclear Research in Rossendorf for supplying the silicon detectors, the cyclotron crew and A. S. Pasyuk and

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I. A. Shelayev for uninterrupted operation of the cyclotron, and  
Ye. A. Loginova for performing the calculations on the electronic  
computer." Orig. art. has: 5 figures and 4 formulas.

ASSOCIATION: Ob"yedinenny\*y institut yaderny\*kh issledovaniy  
(Joint Institute of Nuclear Research)

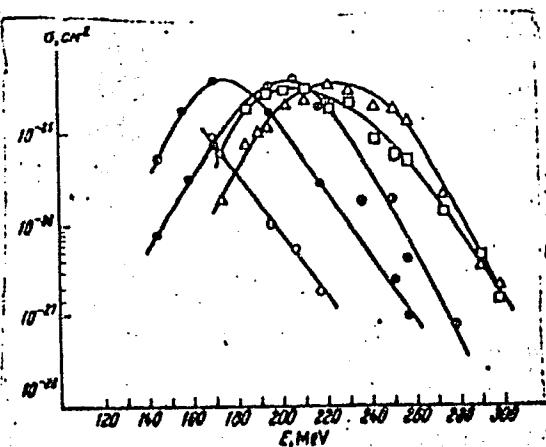
SUBMITTED: 08Aug63 DATE ACQ: 09Jun64 ENCL: 01

SUB CODE: NP NR REF SOV: 003 OTHER: 010

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ENCLOSURE: 01



Dependence of the cross sections on  
the particle energy (in the laboratory  
system for the following reactions:

△ — Cd<sup>116</sup>(Ar<sup>40</sup>, 7n) Dy<sup>161</sup>; ○ — Cd<sup>116</sup>(Ar<sup>40</sup>, 5n) Dy<sup>161</sup>;  
○ — Cd<sup>116</sup>(Ar<sup>40</sup>, 3n) Dy<sup>161</sup>; □ — Cd<sup>116</sup>(Ar<sup>40</sup>, 6n) Dy<sup>161</sup>;  
● — Cd<sup>116</sup>(Ar<sup>40</sup>, 4n) Dy<sup>161</sup>

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A. T. M. (1977) *Geological and geochemical evolution of the Shuang-yan*

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APPENDIX OF THE JOURNAL.

which begins at an excitation energy that is much greater than the energy

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KUMPOST, J.

Two days of aviation and what I gained from them.

p. 400

No. 17, Aug. 1955

KRIDLA VLASTI

Praha, Czechoslovakia

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 5, no. 2  
February 1956, Uncl.

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Three more aeronautic days. (To be contd.)

p. 524  
No. 18, Sept. 1955  
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February 1956, Uncl.

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Jumps from a balloon. p. 446.

KRIDLA VLASTI      no. 19, Sept. 1955  
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Source: EAST EUROPEAN LISTS      Vol. 5, no. 7      July 1956

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Monthly List of East European Accessions (EEAI), IC, Vol. 9, no. 2, Feb. 1960.  
Uncl.

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Preliminary results. p. 363.

Will aerial pictures help to save the peace? p. 364.

The RG-6 Rumanian exports planes. p. 367.

(Kridla Vlasti. No. 12, June 1957. Praha, Czechoslovakia)

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, no. 10, October 1957. Uncl.

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"Practical methods of gliding."

p. 22 (Kridla Vlasi, No. 10, May 1958, Praha, Czechoslovakia)

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"Some remarks on planning brick factories." (p. 174.) STAVIVO (Ministerstvo stavebnich hmot) Praha, Vol 32, No 8, Mar. 1954.

SO: East European Accessions List, Vol 4, No 8, Aug 1954

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Epitoanyag 16 no.3:101-102 Mr. '64.

1. SPA Keramoprojekt, Brno.

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SO: Monthly list of the East European Accessions, (EEAL) LC. Vol. 4, no 10, Oct. 1955. Uncl.